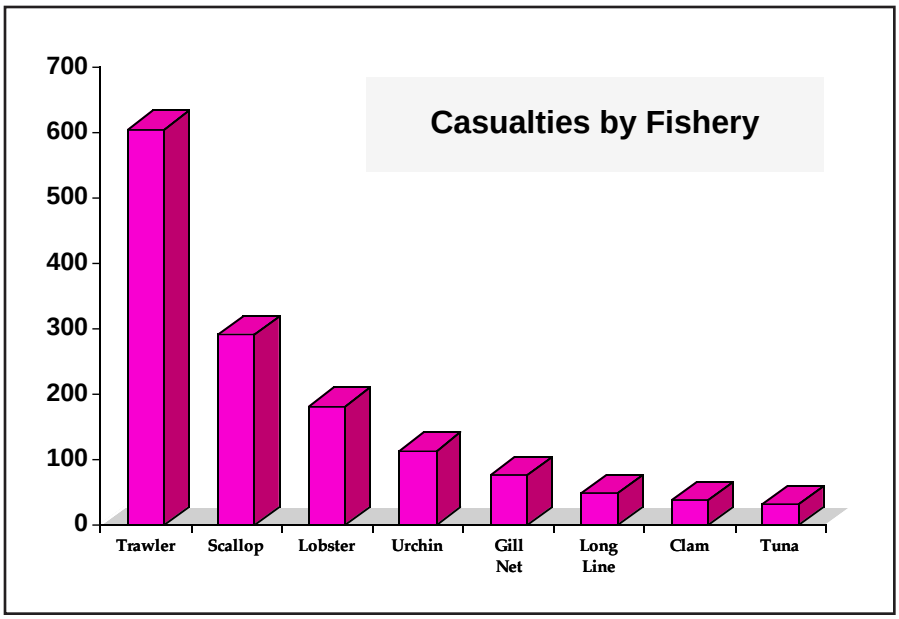
northeastern Fishing Safety UPDATE

MARINE SAFETY DIVISION, FIRST COAST GUARD DISTRICT NO. 10 SUMMER 1998

THE MOST DANGEROUS OCCUPATION ????

The commercial fishing industry has long been considered the most dangerous occupation in the United States. This burdensome label has led to the fishing industry being painted with a giant bulls-eye that says something must be done to make it safer. Laws and regulations were enacted to provide measures that hopefully would make the industry a safer place to work. No one can argue that fishing is probably by nature the harshest environment in which to labor and most of the laborers within the fishing industry are exposed to their environment longer than any other worker. For example most people go to work for eight hours and return home to engage in other activities, but fishermen may stay at their workplace for days or weeks at a time. This in itself exposes the fishermen to more risks and hazards.



So is the fishing industry after six years of minimal safety regulations in better shape than it was before the focus on safety???? To answer that question we must ask a further defining question and that is, is it fair to lump all the segments of the fishing industry into one category? If we put all driving occupations into one group, such as taxi drivers, truckers, and delivery vehicles would that change the way we look at the fishing industry?

"They that go down to the sea in ships, that do business in great waters; these see the works of the LORD, and His wonders in the deep." (Psalm 107:23-24

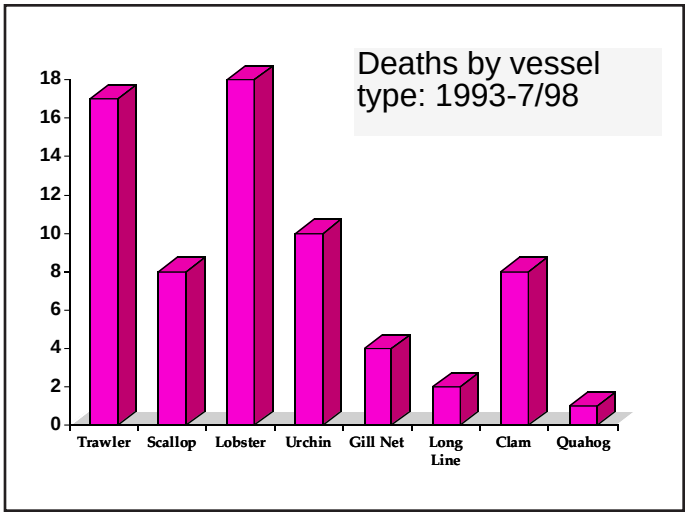
The generally accepted mortality rate for the fishing industry is about 47 deaths per 100,000 workers. This number is just above the mining industry. The logging industry and taxi drivers are also always among the most dangerous occupations each year. The national average for all industries is 11 deaths per 100,000 workers. In an effort to further define which segments of the fishing industry are the most dangerous, the First Coast Guard District has tracked casualties in the fishing industry by vessel type. The below graph illustrates the casualty breakdown by fishery.

The graph groups every type of casualty (deaths, injuries, collisions, sinkings etc) under the vessel type. The data shows that trawlers present the greatest risk to the fishing industry. These vessels make up about 10% of the total fishing vessel population in the Northeast but yet account for almost 33% of the total reportable casualties. Factors that contribute to this high rate include more time at sea, more exposure to severe weather and frequently more members of the crew. These vessels also tend to suffer more catastrophic casualties such as sinkings, floodings and capsizing. Lobster boats have the third highest casualty rate in the Northeast but considering lobster vessels make up almost 50% of the fishing industry, their risk of casualty is low. The approximate casualty rate amongst this segment of the fishing industry as a percentage of the Northeast fleet is only 10%. The population to casualty ratio is the lowest of any of the major fisheries.

The scallopper segment of the industry comprises less than 3% of the fishing vessel population and yet they experience almost 17% of the casualties. This type of fishery while very small, has a very high casualty to population ratio and offers the greatest risk of casualty than any other major fishery. Hazards contributing to the high casu-

alty rate in this fishery include more exposure to severe weather, longer stays at sea, distance from shore and more people in the crew.

While casualty rates are a good indication of fishing vessel safety, the federal government uses deaths per 100,000 workers to categorize the safety of an occupation. We have done this in the same way as above.



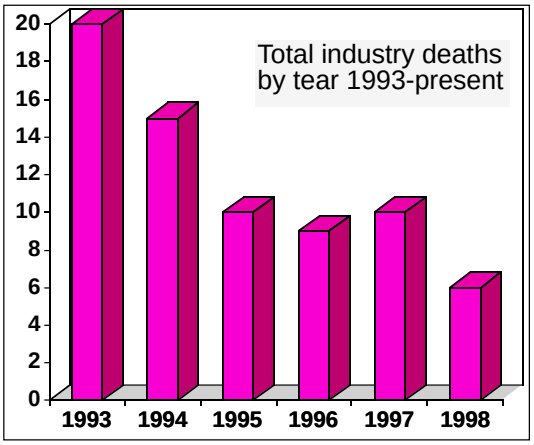
It is extremely difficult to get an accurate account of the number of fishermen in the industry because of the transient nature of the industry. The estimated number of fishermen in the northeast is about 60,000. The death rate prior to 1991 was about 47 per year. This number was probably higher because exact accounts were not tracked as accurately as they are now. The rate in the northeast was at least that high. In 1993 that rate was 33, in 94 it dropped to 25 and for the last 3 years it has averaged 17 per 100,000. It is quite evident that the fishing industry has become a much safer environment in the past 7 years since the inception of the fishing vessel safety regulations.

On a closer examination of the deaths within segments of the industry there are a number of interesting facts. The trawling fishery has the second highest number of deaths from 1993-1997. There were 17 deaths in this fishery from 1993-1997. This represents 27% of the deaths for a fishery that is less than 10% of the industry as a whole. There were 5 trawler casualties that resulted in multiple deaths, the chief cause of which was sinking or capsizing. These 5 incidents resulted in 12 fishermen losing their lives. There were only two other multiple death casualties suffered by all fishing vessels in the 93-97 time period. One of these incidents involved a lobster boat and the other was a tuna vessel. Sinkings and capsizings tend to be the more catastrophic type of casualty because of the circumstances involved. Bad weather, distance from shore, and the time element are all contributing factors Watertight integrity, structural integrity and vessel stability are factors that must be addressed in this vessel category.

The lobster industry, while having a good casualty record, surprisingly has the highest number of deaths among all the fisheries. The Lobster industry lost 18 fishermen in the 93-97 time frame. This represents 28% of all fishing related deaths. In sharp contrast to the trawling industry, only 4 deaths were attributed to capsizing or sinking. There was only one multiple death casualty, but again that was the result of a sinking. The overwhelming cause of death in this industry is man-overboard. 12 of these deaths were the result of either someone falling overboard or being pulled overboard while being entrapped in gear. As opposed to the trawler industry which indicates vessel material conditions contributed largely to the casualty rate, in the lobster industry it appears human error and personnel safety practice are the main cause of death. *When proposing new initiatives that combat deaths within the fishing industry, standards should be adopted that deal with fishery specific issues.* Structural standards may be effective for trawlers but personnel safety measures would be more effective for the lobster industry.

Another major cause of death within the fishing industry is diving accidents while harvesting urchins and scallops underwater. This realm of the fishing industry is not addressed anywhere in regulation. There were 8 diving related deaths in the 93-97 time period, with the Maine urchin fishery being the main contributor. In the majority of these deaths the diver had little to no training in diving operations.

Of the 64 deaths within the northeast in the 93-97 year frame, 27 can be attributed to either fishermen falling overboard or fishing beneath the water to begin with. This figure represents 42% of all deaths attributed to the entire fishing industry.



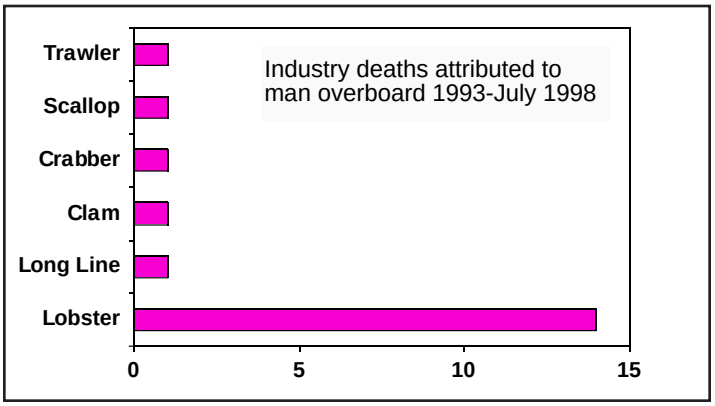
What does all this mean??? On the positive side it shows that the fishing industry in the Northeast has made great strides in reducing its position among the most dangerous occupations in the country. The mortality rate in the northeast has dropped over 50% since the beginning of the fishing vessel safety initiatives. *For the last three years, the mortality rate for the fishing industry in the northeast has stood at approximately 17 deaths per 100,000 workers. This figure is well below the 47 deaths per 100,000 workers figure that was used to identify the fishing industry as the most dangerous occupation in the country.*

On the negative side, even this improvement is almost twice the national average of all other occupations for mortality rates. There is much room for improvement. The battle now becomes what can be done to further reduce the death rate in the fishing industry. Any new initiatives should focus on the root cause of the casualty. Natural targets are structural and water tight integrity for the larger vessels and personnel safety that addresses man overboard and diving safety for the smaller vessels. The

Bureau Of Labor Statistics which tracks death rates for the government has three categories of deaths for the fishing industry: (1) Finfish, (2) Shellfish and (3) Miscellaneous marine products. Mining has 16 different categories and the construction industry has 30 categories according to the 1996 statistics. It is imperative that we focus on not just root causes of death and injury but also on the type of fishery involved so that solutions for one fishery do not impact a fishery where the solution would not be as effective.

MAN OVERBOARD

Fishermen falling from their vessels has been the single most common cause of death within the industry. By far, the fishery that suffers most from this tragic event is the lobster industry. The most common causes of falling overboard for lobstermen are getting tangled in trawl gear and pulled overboard or fishermen loosing their footing and go over the rail. The common denominator with all of the lobsterman overboard deaths is fishing single dory. Lobster vessels generally have open sterns for ease of resetting gear and raised tending tables for working and baiting traps with trawl and buoy line in an anchor lay position across the work deck. As the traps are being worked on the tending table, more often than not, one cannot help but walk on the dormant trawl line. When a trawl is ready to be reset, the last trap hauled in is the first to be deployed. As the trawl line follows the trap overboard, the line comes to life like a continuing whipping missile. This whipping action carries on from the stern to the hauling station just froward of midship on the starboard side. The bridal from the trawl line to the trap runs across the deck to the port side onto



the trawl table and launches the next trap and so on until the end buoy is set.

When the gear is being set, the trawl line cannot be controlled or interfered with. A slippery deck from bait coupled with a little roll or chop from the sea and the work deck becomes a deadly area.

Let's compare the gill net fishery with the lobster fishery. Both haul gear in a similar fashion. The gill net fishery has suffered no man overboard deaths that we are aware of. As gear is hauled, it also is worked on a tending table or "picking table" and stowed anchor lay in a net pen ready to be deployed. There is no open stern, when deployed the net raises up over a guide bar in a horizontal position directly over the net pile, down and under another guide bar and back up over a curved spreading bar separating the float line from the led line and into the water. Generally in the northeast there are two crewman at the stern on either side of the setting bar to guide and eliminate any snarls during deployment.

If gillnets were deployed in the same manner as lobster traps we would see many times more deaths in this fishery as gill nets are far more dangerous to set than lobster traps. There will never be any regulations to reduce this type of casualty, each vessel operator needs to set his own safety standards.


Voyage to see what's on the bottom...

Lessons learned can be used to take corrective measures. Identifying a problem is the first step in preventing it. Could a lobster vessel modify the way his traps are deployed by penning the trawl lines?? Probably, but efficiency and lift production may be sacrificed. Other alternatives could also be used such as, wearing a Type III PFD workvest, or the new inflatable life belt or suspenders. Also an engine kill switch similar to that installed on personal water craft would help. Always carry a sharp knife and have it easily accessible should you become entangled in a trawl line. The knife should have serrated edges so that cutting can be done in the water.

The absolute best way to prevent yourself from falling overboard is to not allow yourself to be placed in the dangerous hazard to begin with. Know the hazard and stay away from it. This sounds like common sense but all too often common sense is not common.

AN ALTERNATIVE !! INFLATABLE PFDS

Though not a replacement for Survival Suits, inflatable PFDs are optional safety gear recommended for those fishermen who are not in the habit of wearing PFDS while working on deck. Complaints that PFDs restrict movement and can get

hung up on gear are legitimate. Inflatable PFDs are not cumbersome and allow freedom of movement for the crewmember who does not have time to don a survival suit if s/he has fallen over the side. The best endorsement for the inflatable is the fact that it would be worn when PFDS would not.

Man overboard is the single most significant casualty statistic on Commercial Fishing Vessels. The ability to stay afloat while a lifering and or line is thrown is an absolute necessity. Time is critical in a rescue; if a person is wearing foul weather gear and rubber boots without some type of PFD, their chances of rescue after falling overboard are very slim..

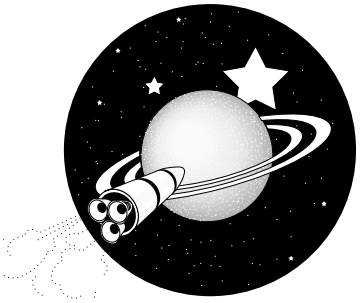
One recent example of this type casualty involved a crewmember of an offshore fishing who vessel fell overboard while untangling gear. Two liferings were immediately thrown to him. While trying to reach the lifering he quickly became exhausted and drowned, unable to reach the liferings. This was just as traumatic for the crew who had to watch their mate drown while in sight of the vessel. The highest casualty for man overboard are Single Dory (one man operations). The benefit from the use of inflatable PFDs would be that the only person on board would actually be wearing a flotation device. Most fishermen carry a knife on a fishing vessel. Ideally the fisherman who gets tangled in gear alone on his vessel and falls over the side would have the opportunity to cut the line and if not capable of swimming would inflate the suspender which would aid him to keep positive buoyancy. Additionally this would allow that much more time to free oneself from entanglement.

Research of Fishing Vessel casualties have revealed many examples of single dory vessels found with no one on board. Recent activity on board indicates someone went over the side and there was no one to retrieve them until it was too late.

In choosing a suspender look for the buoyancy rating and if it is approved for offshore use. Whatever inflatable you choose, the ability to work on deck comfortably is its most important safety feature.

GPS-Global Positioning System

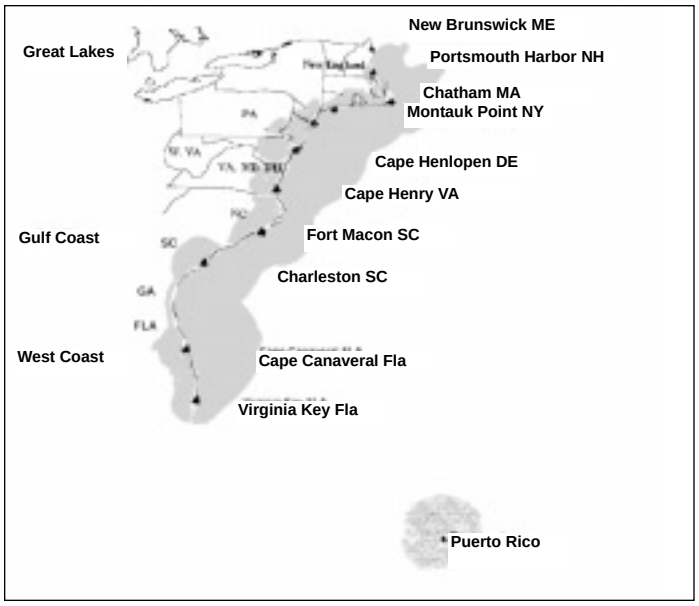
GPS is an advanced method of locating a position with more accuracy than any other electronic positioning system. GPS Satellites orbit the earth and are continuously monitored by stations located worldwide. The signals received by anyone with a GPS determines their position on earth within approximately 100 meters in all weather and round the clock . Each of the 24 satellites take 12 hours to orbit the earth sending out signals to the ground stations at the speed of light. The ground stations in turn send signals to the receiver and calculate its position. This 24 satellite system was completed March 1993.



Although GPS or NAVSTAR was originally started as a military project it has expanded use in the scientific and commercial arena, most significantly navigation at sea. An upgrade to GPS called Differential Global Positioning System (DGPS) is also now available to the general public reducing the rate of error to within 10 meters. DGPS is operated by the U. S. Coast Guard at the NAVigation CENters in Petaluma California and Alexandria, VA. DGPS broadcasts corrections on marine radio beacons to improve the accuracy of GPS positions. See Chart for DGPS coverage area on the East Coast.

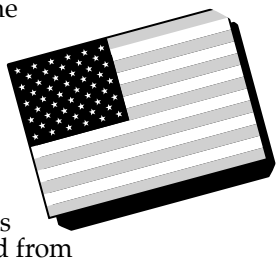
The NAVCENS also update DGPS errors and make corrections 7 days a week 24 hours a day. DGPS was developed for Harbor and Harbor Approach vessel traffic. Complete coverage of the coastline on the east coast is out to 50 nautical miles.

The Coast Guard is working with international organizations to further develop and utilize the DGPS system.



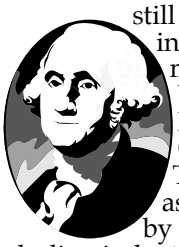
YANKEE DOODLE DANDY (U.S. Citizenship requirement)

There has recently been a number of boardings where the master of a commercial fishing vessel was not a U.S. citizen. This has led to some confusion and a lot of problems for the owner of the vessel. The applicable law states that all documented commercial fishing vessels must be under the command of a U.S. citizen. The definition of under command is not defined by law but is generally considered to be the master of the vessel. Some owners think this is a new law. The law was derived from the **Act of December 31, 1792**. This would class this law as



one of the oldest in the nation. It was next amended in 1884 and was most recently amended in 1996.

The citizenship requirement was and is rooted in a nationalist approach to laws. In 1792 we were a fledgling nation in the aftermath of the Revolutionary War. We were still forming the ideals of the country and severing ties with England. In fact, during enactment of the Act of December 1792, George Washington was president and the Bill of Rights was approved less than a year before. Citizenship had a different meaning then. The number of Representatives for each state as written in the Constitution was determined by adding the whole number of free persons including indentured servants but excluded Indians not taxed and three fifths of all other persons, which meant slaves. The Fourteenth Amendment ratified in 1865 changed citizens to be all persons born or naturalized in the United States but representation was apportioned to each state by counting the whole number of persons in each State, excluding Indians not taxed. This same amendment also spoke to voting rights for each male inhabitant. It was not until the Fifteenth Amendment was ratified in 1870 that the rights of citizens to vote should not be denied on account of race, color or previous condition of servitude.

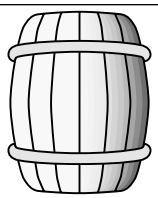


Additionally, during the Civil War, those members who resigned commissions in the Navy and entered the Confederate Service had to appeal to the Attorney General in 1865 after the Civil War was over to serve on U.S. vessels. The attorney General ruled that those officers were considered citizens of the U.S. and could be masters on U.S. vessels.

In 1996 Congress increased the penalty for violation of this law to $10,000 and subjected the vessel to seizure and forfeiture if placed under the command of a non U.S. Citizen. As with any other law there is an exception to this one. In the waters subject to the jurisdiction of the U.S. off the coast of California, the term citizen of the United States includes an alien lawfully admitted to the United States for permanent residence. This law is due to terminate on October 1, 2000. While one might argue in this historical tour of this law that Article I, section 9 of the Constitution prohibits preference be given by any Regulation of Commerce or Revenue to the ports of one state over another, the Coast Guard is tasked with enforcing the law not interpreting the law.

TONNAGE

Speaking of very old regulations steeped in historical tradition, tonnage assignment lists high on the list of regulation gauges. Tonnage is used for documentation purposes, Customs Laws, Fishing Vessel Safety Laws and most recently National Marine Fisheries Service laws when fishermen are replacing an existing vessel. Not too many people understand tonnage. Most folks think of tonnage in terms of weight and that is where most of the confusion lies.



The origin of tonnage comes from a measurement of wine in a cask

The word TON originated form the old Anglo Saxon word TUNNE, which was the term used to describe a large cask for holding wine. One of the earliest English import duties was imposed on wine brought from the continent and loaded aboard ships in large casks or TUNS. The duty imposed by Parliament upon each ton of wine led to the use of the word tunnage as a way of expressing the carrying capacity of the ships used in trade, or a vessel's tunnage was a direct result of how many TUNS of wine she carried aboard. Each TUN held 252 old English wine gallons whose weight was approximately 2,240 pounds each and occupied a space nearly 40 feet cubed. This led to the LONG TON of 2,240 pounds and the measurement of freight ton that is usually calculated at 40 cubic feet to the ton.

Historical trivia: This term came into use during the War of 1812 at Troy N.Y. The government inspector there was Uncle Sam Wilson and when the war opened a Mr. Elbert Andersen who was the contractor at New York bought a large amount of beef, pork and pickles for the troops. These were inspected by Wilson and labeled E.A.-U.S., meaning Elbert Andersen, for the United States. The term U.S. for the United States was still very new and the workmen concluded that they referred to Uncle Sam Wilson. After they discovered their mistake they kept up the joke and it quickly spread to many others. It then got into print and from then on Uncle Sam was used facetiously for the United States.

The roots of the tonnage laws also stem from our country's beginning. The tonnage laws date back to the July 20, 1790. Tonnage taxes were levied on all foreign vessels entering U.S. ports. For vessels built in the U.S. but owned by foreign nationals, the tax was 30 cents per ton, on other vessels not of the U.S the tax was 50 cents per ton, and any vessel any officer of which was not be a citizen of the U.S. the tax was 50 cents per ton. Of course, vessels of U.S ownership that were registered and vessels that had U.S citizens as masters were given tax breaks. The original intent of the documentation laws was to give privilege to U.S. vessels and vessels with U.S. Citizens. This law has been changed many, many times over the years but the original intent of the tonnage tax was to raise money for a new country by taxing the ship on the amount of goods it could carry.

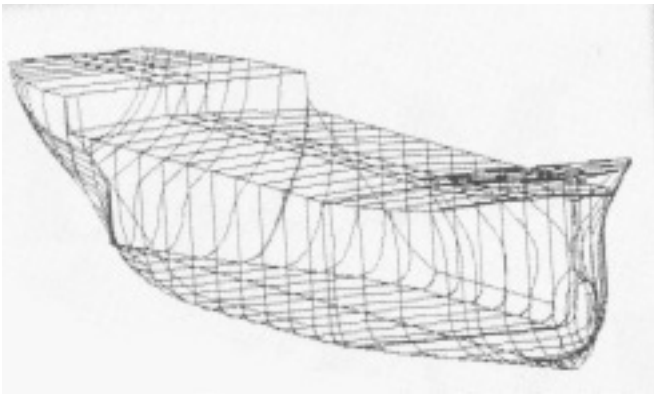
From the beginning however, no vessel belonging to any citizen of the United States, trading from one port in the U.S. to another port in the U.S., or employed in the bank, whale, or other fisheries was subject to the tonnage tax or duty, if such vessel was licensed, registered or enrolled. In the earliest days of this country, vessels that were documented were given special treatment for tax and trade purposes.

ADMEASUREMENT

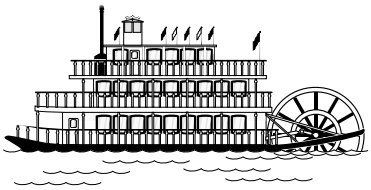
The process of measuring the gross or net tonnage of a vessel is called admeasurement. Authority for measuring U.S. vessels was originally contained in an Act of Congress from 1789. A uniform standard system of admeasure-

ment was established just before the end of the Civil War in 1864. Again these laws are certainly not new but sometimes their use is new.

Tonnage measurements are taken for the purposes of determining the internal capacities of vessels. After 1790, British ships had been measured for tonnage by dividing the product of the length of the keel, the widest breadth of the hull, and the depth of the hold by 94. This system worked until it was decided to simplify the process by arbitrarily stating the depth as one-half of the vesselís breadth. This became known as the Builder's Old Measurement Rule. *Times have changed little, because owners were looking to make as much money as possible, sometimes at the expense of safety. To increase carrying capacity of the vessel with the least measured tonnage, owners designed vessels with very narrow beams and very deep drafts. This led to a number of casualties as the result of poor design*. In 1854, new British rules were adopted. These rules were developed by George Moorson, a naval architect and Chairman of the British Royla Navy Commission. He had calculated the cubic contents of the entire British merchant marine and divided it by the existing registered tonnage of the fleet; the result was 98.22 cubic feet. For convenience, Moorson rounded off the measurement ton as equivalent to 100 cubic feet. This has become the generally adopted basis for computing tonnage. Originally, this system did not exclude spaces from measurement. It was amended in 1864 to provide for the subtraction of certain spaces, which resulted in establishing two different quantities: gross tonnage and net tonnage.



Generally speaking, gross tonnage is the entire internal capacity of a vessel in tons one hundred cubic feet each and net tonnage is the actual carrying capacity of the vessel when certain spaces are exempted from the gross tonnage.



Even in its beginnings, admeasurement was not an exact science. For instance, the early law gave the following guidelines to establish gross tonnage: "Measure the length of the vessel in a straight line along the upper side of the tonnage deck (the tonnage deck in vessels having three or more decks was the second deck from below and in all other cases was the upper deck), from the inside of the inner plank, average thickness, at the side of the stem to the inside of the plank on the stern timbers, average thickness, deducting from this length what is due to the rake of the bow in the thickness of the deck, and what is due to the rake of the stern timber in thickness of the deck, and also what is due to the rake of the stren timber in one-third of the round of the beam; divide the length so taken into the number of equal parts required by a table that classed each vessel according to length of 50 foot increments." After this calculation the formula got complicated. In some way, gross tonnage of the vessel was calculated.

Next, the law allowed for deductions of certain spaces to get the net or taxable tonnage. The first deduction was for crew spaces. Every place appropriated to the crew was to have a space not less than seventy two cubic feet and not less than twelve superficial feet, measured on the deck or floor of that place, for each seaman or apprentice lodged therin. Each of these spaces had to be properly lighted, drained, and ventilated and kept protected from bilge water. You also could not store any cargo in these places and if you did , the master was required to pay each seaman 50 cents a day and the owner paid more tax. You also could not deduct the space unless it was labeled "Certified to accommodate seaman". Marking requirements also go way back. The Master's room also had to marked in a similar way. Any space used for navigation, the working of the helm, the capstan, anchor gear, keeping of charts etc. could also be deducted from gross tonnage if it was marked properly. In the case of sailing vessels, you were allowed to deduct up to 20 percent of the gross tonnage if the space was used exclusively for sail storage. This room also had to be marked "Certifed for sail storage." If the vessel was propelled by machinery, you could deduct thirty-two thirteenths times the tonnage of the propelling machinery space, if that space was not more than thirteen percent of the gross tonnage of the vessel. There was also special deductions for vessels propelled by paddle wheels. Of course the law was amended many times as industrious owners and builders found ways to reduce the net tonnage by designing more deductions into the vessel.

The requirement to mark the net tonnage on some internal part of the vessel came into being in 1886. The amendment required that the net tonnage be deeply carved or otherwise permanently marked on her main beam, a fine of $30 was imposed on the vessel on every arrival at a port of the U.S if it did not comply.

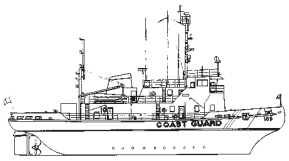
The laws of admeasurement have changed many times over the last 200 years. They were initially instituted as a gauge to collect taxes. Because of this, owners of vessels would naturally find ways to circumvent or stretch the law to avoid paying more tax. The admeasurement laws were never an exact science and even today builders can easily change tonnage measurements on vessels. There are many vessels that changed service from cargo vessels to passenger vessels and reduced the tonnage to fall under certain regulations. Some of these vessels can reduce their tonnage by a factor of 4 or more.

NAUTICAL KNOWLEDGE TRIVIA:
GRAVE: was an old term meaning to bream or clean barnacles from a ship's bottom and apply a coating of tar, pitch, resin or other coating. A vessel went into a graving dock to have this done. Today a graving dock is used to remove a vessel from the water for a drydock exam or to paint and repair the bottom.

The tonnage issue is a mystery to many people. Some fishermen wonder why a vessel that is 32 feet and documented has more requirements than a 42 foot boat that is state registered. There is no reason other than the law requires more of a documented vessel. Two hundred years ago tonnage was used as a basis for taxes. There was no deductions for spaces and almost all vessels used in trade were big enough to be documented. Presently we use documented tonnage for many other purposes, one of which is for regulatory gauge.

Times have changed but sometimes the laws do not change with the times.

HISTORY AND TRADITION



In keeping with some of the historical themes of this issue, there is an important part of our Coast Guard history that sometimes is overlooked. The Coast Guard has served as our Nation's primary federal law enforcement agency since 1790 when its predecessor, the Revenue Cutter Service, was established. A great many of the regulations we still enforce have their basis in this time period. This having been said, it would seem appropriate that the marching orders given in 1790 by Alexander Hamilton, the first Secretary of Treasury, be repeated now. The following is part of the inaugural address given by Secretary Hamilton:

"While I recommend in the strongest terms to the respective officers, activity, vigilance and firmness, I feel no less solicitude that their deportment may be marked with prudence, moderation and good temper. Upon these last qualities, not less than the former, must depend the success, usefulness and consequently continuance of the establishment in which they were included.

They will always keep in mind that their countrymen are freemen, and, as such, are impatient of everything that bears the least mark of domineering spirit. They will therefore, refrain, with the most guarded circumspection, from whatever has the semblance of haughtiness, rudeness, or insult. If obstacles occur, they will remember that they are under the particular protection of the laws and that they can meet with nothing disagreeable in the execution of their duty which these will not reprehend. They will endeavor to overcome difficulties, if they are experienced, by a cool and temperate perseverance in their duty by address and moderation, rather than vehemence and violence."

While the foregoing language is dated, the principles expressed over two hundred years ago still remain valid today. The significance of the rights and freedoms Secretary Hamilton addressed is underscored by his decision to devote his entire first letter to this topic. He could easily have chosen to emphasize the importance of stopping the smuggling which was literally siphoning away the life blood of the young nation because of lost revenues. Instead he felt it more important to ensure the Revenue Cuter Service (Coast Guard) understood that the enforcement of U. S. laws and treaties is second to protecting the Constitutional Rights of every individual entitled to such protection.

For those who think these words and thoughts may have been forgotten, this is not the case. The above excerpt was taken from Chapter 1 of the Coast Guard's Law Enforcement Manual, which is the policy guide for all Coast Guard law enforcement activities. On the National Archives building in Washington D.C it is written that the PAST IS PROLOGUE. This simply means that the past serves as an introduction to the future. Hamilton's words are just as meaningful now as they were 200 years ago.

EPIRB CARRIAGE REQUIREMENTS

As of February 1st, 1998 all commercial fishing vessels operating on the high seas are required to carry some type of 406 Mkz Emergency Procedures Indicating Radio Beacon (EPIRB). All commercial fishing vessels that operate on the high seas and that are 36 feet or more in length are required to carry a **Category I 406 Mhz EPIRB**. The category I EPIRB is automatically activated and will release from its bracket if the vessel sinks. The EPIRB can also be manually activated if the vessel is trouble.

All commercial fishing vessels less than 36 feet that operate on the high seas are required to carry either a **Category I or a Category II 406 Mhz EPIRB**. The Type II is manually activated. If a vessel elects to carry a Type II, it must be stowed in a readily accessible location at or near the principle steering station. Again, EPIRBs are required only when a commercial fishing vessel is operating on the High Seas. The High Seas are those waters beyond a line three nautical miles seaward of the territorial sea baseline as defined in 33 Code Of Federal Regulations (CFR) 2.05-10. This line is marked on most NOAA charts. Mariners should ensure that stowage, activation and monthly testing of EPIRBs is being conducted by the master. The EPIRB should be in the ARMED or READY position if it is a Category I. The EPIRB must be registered with NOAA and a small decal indicating this must be placed on the EPIRB. The difference in rescue time for a registered EPIRB can be as much as 4-6 hours. Our goal is to make sure that the vessel not only has the proper EPIRB but more importantly that the master understands its use, tests it monthly and the EPIRB is capable of operation should the need arise. The EPIRB is often the last hope for a sinking vessel that has lost power. It is essential that the EPIRB be maintained in operable condition.

HIGH SEAS

What exactly is the high seas?? As a legal concept, the high seas dates back at least to the Roman Empire. They looked upon the sea as common to all mankind. With the development of commerce in the late Middle Ages, maritime nations began to claim exclusive control over parts of the ocean next to their countries. These claims reached their peak toward the end of the fifteenth century when the Spanish claimed exclusive right of navigation in

the Pacific Ocean, the Gulf of Mexico and the Western Atlantic; Portugal claimed the Atlantic Ocean south of Morocco and the Indian Ocean. There was little law recognized in this matter and each nation's claim was recognized in the proportion of their power to defend them.

Spain had the largest navy in the world at that time but later in the 16th century wars with other nations and a perfect storm led to the demise of the Spanish Navy. By the close of the 17th century the Roman doctrine of free seas again became popular. With this right of free seas most nations were uncomfortable with the fact that any nation could sail along its coasts. There was a need to exercise some jurisdiction over the waters along its coasts, to some distance offshore. This was needed for national defense and for the protection of neutral shipping in time of war. Countries failed to agree on any one principle as to what the distance offshore should be. Some thought it should extend out to 100 miles, others thought that the distance should be as far as one could sail in a couple of days, or as far as one could see.

Finally, the CANNON SHOT RULE was hit upon. This rule was based on the distance from shore that a nation could defend itself with a cannon. Since at that time the range of cannon was approximately a marine league, or 3 nautical miles, this distance became the limit to which a coastal nation could exercise territorial jurisdiction. And thus originated the doctrine of the 3 mile limit.

The doctrine of a 3 mile zone was first put forward in this country when Thomas Jefferson, while Secretary of State in 1793 officially put forward a claim for a 3 mile zone as the territorial limits of the United States. This territorial seas and high seas definition are now used to determine safety requirements including the carriage of EPIRBs.

FCC STATION LICENSE REQUIREMENTS

There still seems to be a lot of confusion over which vessels are required FCC Ships Station Licenses. The FCC guidelines class vessels into two categories: (1) Voluntary , those not required by law to carry radios and (2) not voluntary, those required by law to carry radios. Vessels that are not voluntary and are required by law to carry a radio are:

- Cargo ships over 300 gross tons
- Coast Guard inspected vessels with 6 or more passengers
- Power driven vessels over 20 meters on navigable waters
- Coast Guard inspected vessels over 100 gross tons carrying at least one passenger
- Tow boats more than 7.8 meters on navigable waters
- Documented commercial fishing vessels operating beyond the Boundary Line

All state numbered fishing vessels are not required to carry a VHF radio. Also all documented fishing vessels that operate inside the Boundary Line and are less than 20 meters are not required to carry a radio or a station license. The exception to this is that any vessel using MF/HF single side band radio, satellite voice communications or telegraphy must continue to be licensed by the FCC.

Further information on this subject may be received by calling FCC customer assistance at 888-CALL-FCCand also on the web;WWW .FCC.GOV/WTB/AVMARSRV.HTML

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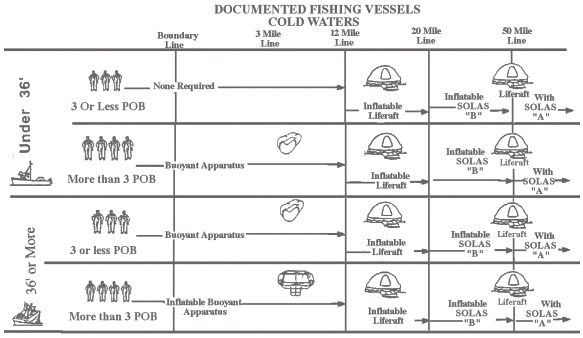
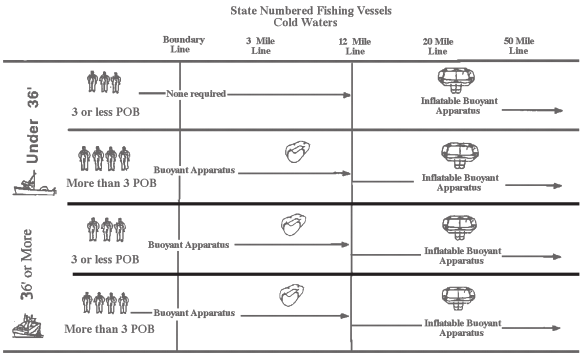
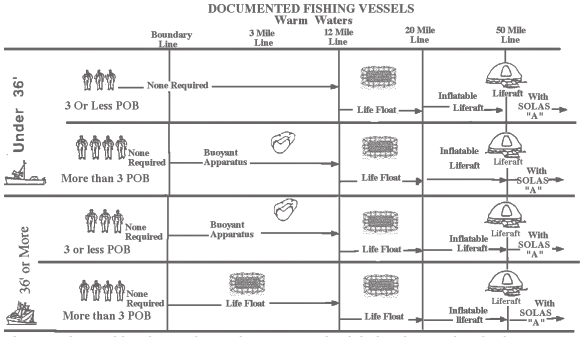
SURVIVAL CRAFT REQUIREMENTS

The final survival craft requirements have now been in effect for over one year but they continue to cause confusion. The following tables are provided to present the regulations in graphic form to help eliminate some of the confusion.

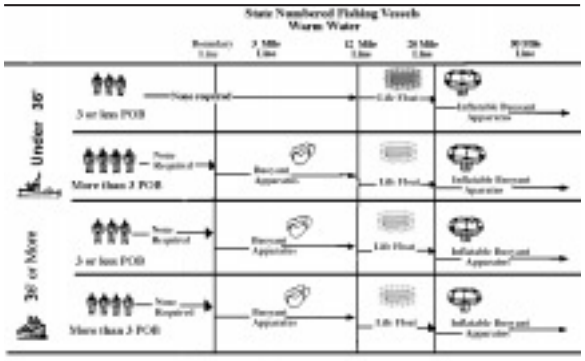


The water is considered cold for northern New England in every month but July, August and September. The waters south of Watch Hill, Rhode Island are also considered warm in June and October. See PAGE ii & iii for cold water months and Boundary Line.





The water is considered warm for northern New England during the months of July, August and September. The waters south of Watch Hill, R.I. are also considered warm in June and October. The waters of northern New England more than 20 miles offshore remain cold even during the summer months. See the cold water chart on PAGE II.



DRILLS

Have you ever tried skiing without a lesson? Or how about playing a piano without any instruction? Or more at home, remember swimming for the first time? We have all had similar experiences with learning a new skill. These experiences were sometimes scary or even dangerous. But, we knew if we were to master the new skill, we would have to devote time and energy to training and practice. Safety drills on commercial fishing vessels is no different except that the skill has the potential for saving our lives. Think of the countless hours you spent kicking a soccer ball or batting a baseball in hopes you could be one of the best, and yet, the commitment for devoting hours to practicing lifesaving drills is frequently met with complaints and apathy. Instruction, drills, and safety orientation are required to be given by the master or individual in charge of each documented fishing vessel that operates beyond the Boundary Line or any fishing vessel that operates with more than 16 individuals onboard. The drills must be conducted on the fishing vessel as if it were an actual emergency and must include participation by all individuals onboard. You must also break out and use all the equipment including putting on survival suits or lifejackets. This does not include launching and inflating a liferaft. The instruction and drills must include at least the following situations:

- ***Abandoning ship***
- ***Firefighting***
- ***Man overboard and recovery***
- ***Damage control for flooding***
- ***Launching liferafts and other survival craft***
- ***Putting on immersion suits and other PFDs***
- ***Putting on a fireman's outfit if required***
- ***Using a radio and distress flares for emergencies***
- ***Using the general alarm***
- ***Reporting broken alarms and other system***

No individual may conduct the drills required unless s/he has been trained in the proper procedures for conducting this activity. Any individual who is approved to "train the trainer" must have been approved by the Coast Guard. The approval is based on offering the right curriculum and having mandatory qualifications. Contact your nearest Marine Safety or Coast Guard Activity for a listing of approved courses in your area. Many fatalities are directly traced to individuals who didn't know what to do in an emergency. Such simple things as not knowing how to put on a survival suit or how to make a distress call have led to needless death. More than one liferaft has sunk with the vessel because it was tied down; more than one liferaft was never inflated because the crew did not know they had to pull 100 or more feet of line out of the liferaft canister before it would inflate, and more than one fisherman died because man overboard drills were never conducted.

While the danger and panic of a real abandon ship condition can't be felt in drills, you can be schooled into automatic responses so you know where to go and what to do. Don't let pride or panic cause you to make bad judgements. All crew members should know their assigned tasks that are listed on a simple station bill. For instance, in an abandon ship scenario the alarm

Nautical Knowledge trivia: A ship's anchor chain, at the point where it is fastened to a vertical timber called the bitt, was know as the bitter end. Thus when the chain was payed out to the bitter end, there's nothing more that can be done.

would sound or the order would be given to abandon the vessel, each crewmember would know who is responsible for mustering all hands, who brings survival suits, who makes a distress call, who launches the raft etc. Practice makes perfect, there is no substitution for repeating a drill over and over again. ***To offer another sports analogy, some professional football teams practice one play over and over again throughout the year and they may only use that play one time, but it is usually in a situation that will win the game***. Awareness of the procedures to be followed in an emergency situation will improve both competence and confidence that if an emergency situation does arise the crew is well equipped to handle it. Additionally, each crewmember should know each other's tasking in an emergency. You can never tell who may get hurt or lost.

There is no substitute for learning by doing. Safety cannot be legislated. To make safety work each individual must take his responsibility to the crew and the vessel seriously. Certainly no one would go to sea without nets, bait or hooks or the skill necessary to use that equipment. The same should hold for safety and safety drills.

NON REGULATORY INITIATIVES

In an effort to further decrease casualties within the fishing industry, the First District is implementing an initiative to focus on those items that are causing casualties but are not required by regulation. Each quarter two new areas for inspection during an at sea boarding will be high lighted. These areas are not regulated but will improve the safety of the vessel and its crew if a deficiency is noted and corrected. Fishing vessel sinkings are the second leading cause of death in the industry. Two of the most frequent sources of sinkings are from flexible hoses and rudder assemblies in the lazarrette. These items should be checked this quarter if boarding conditions allow, and the boarding officer considers the area safe.

(1)Flexible hoses for engine cooling and bilge pumping should be checked for:

- Wear, chaffing, cracks, distortions and proper size for the fitting. Insure that the hose is double clamped at the source of intake and discharge. Check conditions of clamps.

(2) Rudders and Lazarrette should be checked for flooding and general condition of the area. Also:

(a) Determine if there is excessive leakage through rudder post or rudder stock packing.

(b) Check condition of hydraulic steering hoses and connections

(c) Inspect control linkages, linkage pins and ram guide for wear

(d) Ensure that all vital connections, pins, couplings, and control linkages have securing devices, such as cotter pins, double-nut locking arrangements or spot welded bars that are in good shape to prevent loosening or breaking from heavy vibration.

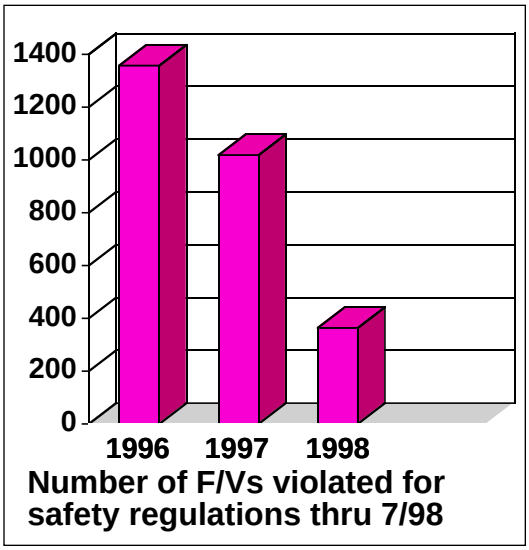
Most casualties have occurred in mobile gear F/Vs.

Drop in the Number of Fishing Vessel Safety Violations

There has been a significant drop in the number of Fishing Vessel Safety Violations in the past three years. Education , compliance and the commitment of the offshore Fishing Fleet to Fishing Vessel Safety has succeeded in reducing the number of Safety Violations.

Although it can be argued that there are slightly less Fishing Vessels in terms of numbers there has not been a decrease in the number of boardings. Fishermen have become familiar with the safety requirements and have insured they have safety equipment on board.

In the past three months the number of safety violations has dropped to only10% of boardings in the offshore New England fishing fleet. The participation of fishing vessels in the fishing vessel Voluntary Dockside Examination (VDE) decal program has contributed significantly to this trend.



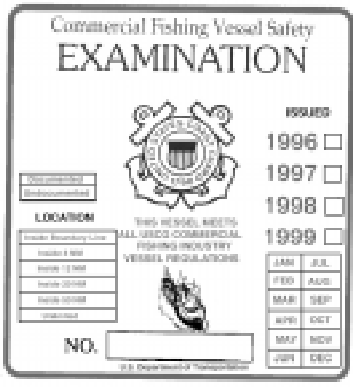
Not only have the numbers of violations declined but the severity of those violations has also decreased. Most violations are satisfied with a verbal warning for minor infractions.

For 1996 and 1997 an average of about 3,500 commercial fishing vessels were boarded each year in the northeast. That number should be consistent with the boarding projections for this year.

The First Coast Guard District has adopted a policy to promote fishermen to enlist in the Voluntary Dockside Examination program. The intent is to give credibility and incentive to the Voluntary Dockside Examination program and also focus Coast Guard safety boarding efforts on those vessels that most need them. We have statistical data that supports the contention that vessel s with safety decals have a much higher degree of compliance with the safety

regulations than those that do not have decals. The safety violation rate last year for vessels with decals was less than 8%, while those vessels without decals had a violation rate of almost 60%. The following guidance has been provided to all operational units within the First District.

ENFORCEMENT OF CFVSA REGULATIONS

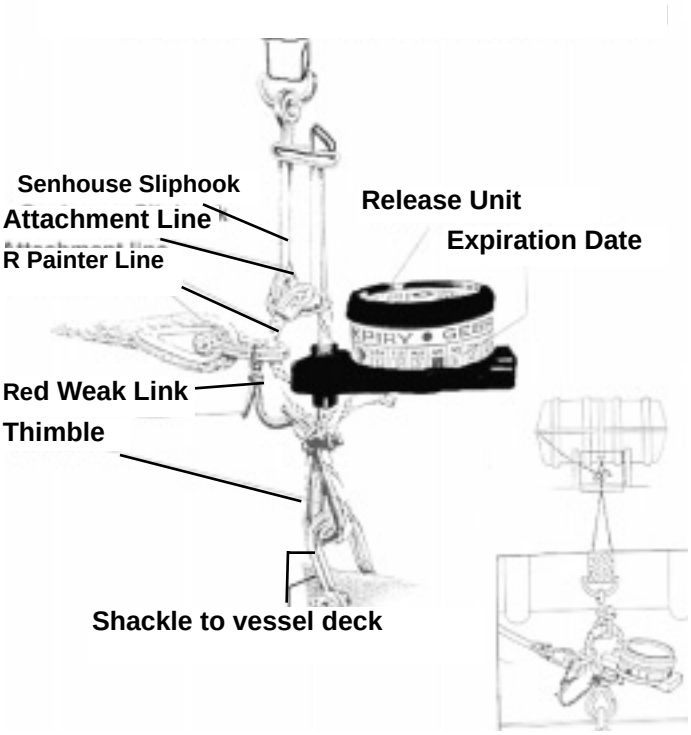


FOR F/VS W/A VALID SAFETY DECAL LESS THAN ONE YEAR OLD, DO NOT CHECK F/V SAFETY REQUIREMENTS UNLESS A COMPELLING REASON TO DO SO EXISTS. DISPLAY OF A COMMERCIAL FISHING VESSEL EXAMINATION DECAL IS NOT INTENDED TO PRECLUDE BOARDINGS FOR LAW ENFORCEMENT REASONS, HOWEVER, VESSELS WHICH DISPLAY DECALS SHALL BE CONSIDERED LOW PRIORITY SAFETY BOARDING TARGETS UNLESS VISABLE CONDITIONS DICTATE OTHERWISE. IF THE DECAL WAS ISSUED MORE THAN ONE YEAR BUT LESS THAN TWO YEARS AGO, CONDUCT A CURSORY REVIEW OF ANY ITEMS FROM THE "BIG EIGHT". FOR ALL F/VS WITH A DECAL PROVIDE POSITIVE FEEDBACK TO OPERATOR FOR PARTICIPATING IN THE PROGRAM AND LET HIM KNOW THAT BOARDING WAS EXPEDITED BECAUSE OF THE SAFETY DECAL. FOR VESSELS W/O DECALS, CHECK QUANTITY, TYPE, MAINTENANCE AND CONDITION OF THE "BIG EIGHT" AND A WALK THROUGH OF MAJOR SPACES. WHEN SIGNIFICANT DEFICIENCIES ARE NOTED A MORE COMPREHENSIVE EXAM IS WARRANTED. FOR STRUCTURAL, STABILITY OR OTHER NON REGULATORY DEFICIENCIES WHICH MAY CREATE AN UNSAFE CONDITION FOR VESSEL OR CREW NOTIFY DISTRICT (M) OR LOCAL; MSO FOR A BOARDING AT THE DOCK.

Please Release Me

Most liferafts that are installed to float free use some type of disposable hydrostatic release. A hydrostatic release means that the unit will work when there is a difference in pressure caused by water depth. When a vessel is sinking the hydro release *feels* a difference in pressure. The pressure difference causes a sharp razor inside the hydro housing to release which cuts the attachment line to the liferaft cradle or container. The liferaft is now free to float away from the vessel. The only line attached to the vessel is the painter from the liferfat which in turn is attached to the weak link on the hydro unit which is shackled to the vessel. As the painter line is payed out it will inflate a CO2 cylinder after 100 feet or so of the painter is pulled from the raft. The red weak link is designed to break as the vessel sinks so the raft is free from the sinking vessel. This small piece of equipment is essential for the raft to work if the vessel sinks. That makes it extremly important that the hydrostatic release is installed properly. The raft is absolutely no good if it sits at the bottom with the vessel. The below pictured diagram provides a guide for the proper installation of a hydrostatic release. **Please take the time to make sure that the release on your vessel is proper; It may**

LIFE RAFT RELEASE INSTALLATION



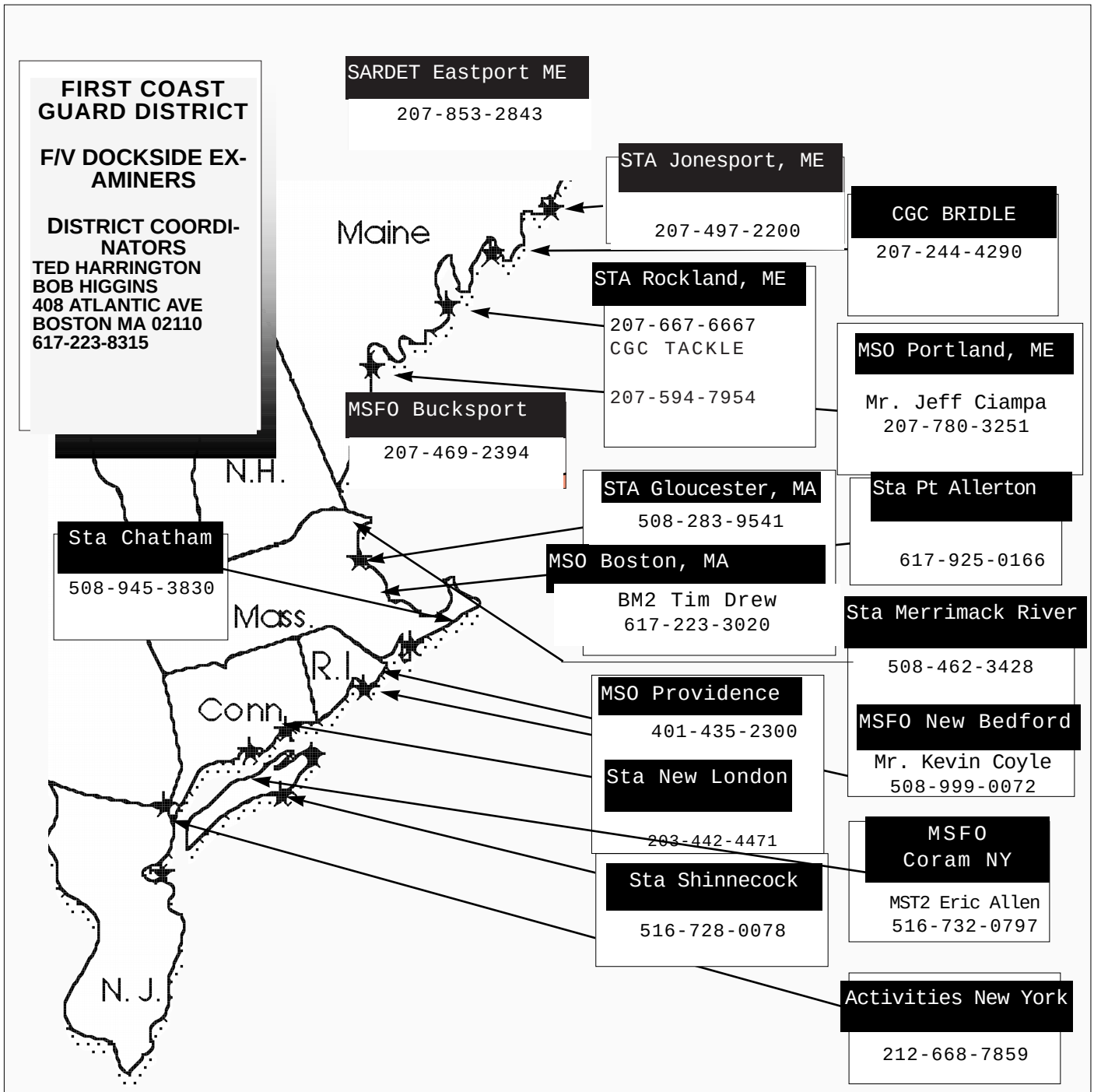
save your life.

WEB INFO

The amount of information contained on the internet is rapidly exapanding every day. We have added a web page to allow those folks who have internet capability to share this newsletter and other information related to the commercial fishing vessel safety field.

The Web address is http://www.uscg.mil/d1/m/fvs/.

If you would like to see certain information posted in this page please let us know and we will make every attempt to do so.



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